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تقييم جودة الخدمة بالعيادات الصحية للعاملين: حالة مدينة الملك فهد الطبية بالرياض

أحمد علي سليمان* جمعة بن فرحان العنزي**

* أستاذ التسويق، كلية إدارة الأعمال، جامعة الملك سعود، الرياض

** مرشح الدكتوراه في الإدارة الصحية، كلية إدارة الأعمال، جامعة الملك سعود، الرياض، المملكة العربية السعودية

(قدم للنشر في ١٤٣٢/٨/٩هـ؛ وقبل في ١٤٣٢/١٠/٢١هـ)

الكلمات المفتاحية: جودة الخدمات الصحية، الإدراك، التوقعات، سيرفكوال، الجودة الوظيفية، المملكة العربية السعودية.

ملخص البحث. أدركت عيادات المنسوبين بمؤسسات العناية الصحية بالمملكة العربية السعودية – مثل باقي العيادات بالمستشفيات الكبرى – أهمية الأخذ بفلسفة التركيز على العميل وبدأت تهتم بإدارة الجودة. لذا تتلخص أهداف هذه الدراسة في: (١) التعرف على مستويات إدراك وتوقعات المرضى وثغرات الجودة في خدمات العناية الصحية بعيادات المنسوبين بمدينة الملك فهد الطبية بالرياض (٢) التعرف على أبعاد الجودة الأكثر ارتباطا بالإدراك الكلي للجودة (٣) معرفة الخصائص الديموغرافية للمرضى المرتبطة بتوقعاتهم (٤) التعرف على الثغرات التي يمكن أن تتنبأ بالإدراك العام للجودة من جانب المستجيبين. وقد استخدم الباحثان مقياس "سيرفكوال" في جمع البيانات من عينة عشوائية ممثلة لجميع المهن الطبية في مدينة الملك فهد الطبية عن طريق البريد الإلكتروني، وتشير نتائج التحليل الإحصائي إلى وجود ثغرات سلبية في كل جوانب الخدمات الطبية بتلك العيادات، وبعد مناقشة النتائج تم تقديم عدد من التوصيات لتحسين الخدمات الصحية بعيادات المنسوبين.

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profession type, or length of work experience. However, a statistically significant difference was detected among respondents based on gender; the expectations of female respondents were higher than those of the male respondents. This finding calls for giving more attention to the health services that are provided to female patients and raise them to the level of patients' expectations.

- Three quality dimensions emerged as exerting the most influence on overall patient perception and act as predictors of patients' quality perceptions. These were *Assurance, Responsiveness, and Tangibles*, which accounted for 62% of the data variability.
- A regression equation was obtained that predicts patients' perception based on the three dimensions of *Assurance, Responsiveness, and Tangibles.*

The findings of the current study are consistent with those of research studies conducted in other countries (such as Greece, UK, and the United States) as revealed in the literature review before.

Many steps and plans should be implemented –as explained above– in order to improve the quality of health care at KFMC-SHCs, especially in the areas of *Reliability, Responsiveness, Assurance*, and *Empathy.* Such steps and plans might include:

- Conducting intensive training programs for health care employees that deal with the functional quality (interpersonal skills) of health care services stressing the deficient areas mentioned above.
- Establishing recognition and reward systems (monetary and non-monetary) for health care providers to boost their morale and improve their responsiveness and empathy.
- Surveying excellent health care practices and customer service programs in other health institutions world-wide and adopting them (benchmarking).
- Sending teams of SHC care providers abroad to attend relevant seminars and workshops.
- Establishing and implementing an 'employee-of-the-month' prize program, and rewarding excellent performance.
- Improving the promotion schedule of health care providers.
- Encouraging the creativity of health care providers and urging them to provide ideas and proposals for simplifying health care procedures and improving staff reliability, responsiveness, and empathy.
- Holding bimonthly meetings with health care providers headed by the institution's top administrators, and improving communications among them.
- Conducting longitudinal (frequent) patient surveys using the same instrument at least once a year in order to measure the degree of improvement in SHCs service quality over time, using this study as a basis for comparison. The data can be gathered regularly and randomly from at least ten patients on a daily basis. We suggest that the total number of collected responses to be at least 2,500 annually. The results of the survey can be simultaneously transmitted on an interval time-frame basis to the executive dashboard for analysis, interventions, and corrections. Listening to the voice of the customer should lead to a win-win outcome.

Suggestions for Future Research

Since service quality is of major concern to all health care executives and decision makers, other health care institutions in Saudi Arabia that have SHCs with similar situations can replicate this study, compare their findings with this study findings, and benefit from them.

This study has been concerned with the functional quality of health care services rather than the technical quality; the technical aspects of the delivery process are, in most cases, industry specific (Babakus and Mangold, 1992). Both types of quality complement each other and if both types of quality could be measured, a full picture of the situation might be obtained. Future research might achieve this.

Other future studies might compare patients' perceptions of health care quality with care providers' perceptions in one or several health institutions for comparison purposes. Also, comparisons can be conducted between regular patients and SHCs patients in terms of quality perceptions, expectations, and gaps. Investigation might focus on whether differences, if any, are due to the professional/technical knowledge of SHCs patients. In addition, comparative studies can be conducted between health care institutions with SHCs and health care institutions without SHCs in Saudi Arabia. Finally, comparative studies can be carried out between Saudi Arabia and other Arab countries.

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first two dimensions having positive influence while the third dimension having negative influence. The negative sign of the b coefficient of tangibles implies that less attention should be given to the *Tangibles* dimension as compared to the other dimensions, but not to be neglected completely since its gap is also negative but smaller.

The regression equation can, then, be drawn from Table 12 as follows:

$$\hat{Y} = 4.065 + 0.355 \text{ Assurance} + 0.327 \text{ Responsiveness} - 0.142 \text{ Tangibles}$$

Where: $\hat{Y}$ = Predicted overall perception (dependent variable).

This regression equation can be used in predicting patients' overall perception of health care quality at the KFMC- SHC when the value of one (or all) of the predictors (*Assurance, Responsiveness, Tangibles*) is (are) increased by one unit.

Discussion

The above findings indicate obvious gaps between all perceptions and expectations of patients with regard to health care service quality at KFMC-SHCs. The mean scores of perceptions were lower for all statements and all dimensions with an overall mean of 3.02, while all expectation statements and dimensions were higher with an overall mean of 4.33. Indeed, negative quality gaps do exist in the SHC services with a negative overall gap of -1.31 (Table 5). These findings provide answers to the first and second study questions.

All the five dimensions of health care quality show various gaps between perceived and expected service quality. The largest negative gap exists in the area of *Reliability* (-1.64), followed closely by a significant negative gap in the area of *Responsiveness* (-1.59) and another significant negative gap in the area of *Empathy* (-1.44). The smallest negative gap exists in the *Tangibles* dimension (-0.90) even though its t-value of 13.15 was significant ($p < .01$, Table 5). Therefore, we can conclude that quality gaps do exist as well in all dimensions of health care quality at SHCs.

On the other hand, some quality dimensions were most associated with overall quality perceptions. This is evidenced by the multiple regression analysis results which yielded a significant correlation (.78) between overall perception and the *Assurance*, *Responsiveness*, and *Tangibles* dimensions (Table 12). These findings provide the answer to question #3 of the study questions.

The study findings indicate that not all the demographics of respondents were associated with their expectations. The only demographic variable found to be most associated with expectations is gender; significant differences in expectation scores were found between males and females and the expectations of female respondents were higher than those of the male respondents. No significant differences were found among respondents based on other demographic variables (nationality, housing location, age, type of contract, profession type, and work experience). These findings provide answers to the fourth study question.

Finally, to answer the fifth study question, the major factors leading to service quality according to patients at SHCs were found to be *Assurance, Responsiveness,* and *Tangibles* with the first two dimensions having positive influence and the third dimension having negative influence (Table 12). The negative sign of the b coefficient of *Tangibles* implies that less attention should be given to this dimension as compared to other dimensions, but not to be neglected completely since its gap was also negative but smaller.

Summary, Conclusion and Recommendations

The above analysis reveals several observations and trends:

- Negative quality gaps were found in all aspects of health care quality at SHCs at varying degrees. This means that patients' perceptions of health care quality in general fall short of their expectations. In other words, patients are not satisfied with all current aspects of health care services.
- The largest negative gaps existed in the areas of *Reliability, Responsiveness,* and *empathy*. These are the three areas that need most attention on the part of KFMC-SHCs' administration.
- The largest perception scores and smallest negative gap were found in the *Tangibles* area. The SHCs seem to perform better in this area than in other areas; still this area suffers from a small gap.
- Respondents had the highest expectations in the areas of *Reliability, Responsiveness,* and *Assurance*. This finding confirms a previous one above and calls for more attention to these areas in order to improve performace quality and raise it to the expected levels.
- There were no significant differences among respondents in expectation scores based on their nationality, housing location, age, type of contract,

Table 12. Multiple regression analysis results

	F = 53.290, p < .05				
Model	**a**	**b**	***Beta***	**t**	**p**
Overall quality perception (constant)	4.065			43.216	0.000
1- Tangibles Gap		-0.161	-0.142	-2.014	0.046
2- Reliability Gap		0.069	0.078	0.704	0.483
3- Responsiveness Gap		0.276	0.327	2.410	0.017
4- Assurance Gap		0.297	0.355	4.048	0.003
5- Empathy Gap		0.166	0.173	1.687	0.094

Note: Dependent Variable = Overall perception score

Table 13. Correlations among mean quality gaps

	1	**2**	**3**	**4**	**5**
1. Tangibles Gap	1				
2. Reliability Gap	0.684	1			
3. Responsiveness Gap	0.657	0.878	1		
4. Assurance Gap	0.682	0.844	0.893	1	
5. Empathy Gap	0.669	0.816	0.862	0.826	1

Note: All correlation coefficients are significant at p < 0.01.

variances yielded significant differences in expectation scores between males and females. The expectations of female respondents were higher than those of the male respondents ($t = 2.124$, $p < 0.05$). In the meantime, the results show no differences among respondents in terms of nationality and housing location (inside or outside campus). Also, the ANOVA tests yielded no significant differences of respondents' overall expectations based on their age (F=1.127), type of contract (F=0.783), profession type (F=0.195) and work experience (F=1.311).

Predicting health care quality perceptions

Multiple regression analysis was conducted using the overall perception scores as the dependent (criterion) variable and gaps of the five dimensions as the independent (predictor) variables for three purposes:

1. To examine the effects of the quality mean gaps in the five dimensions on the overall clients' perceptions, as measured by statement no. P23 in the instrument.
2. To identify dimensions' gaps that are most associated with overall perception.
3. To calculate the regression equation that enables us to predict perception of respondents.

Regression analysis results are displayed in Table 12. The analysis yielded an F-value of 53.290 that is significant at the .05 level. It also showed a highly significant correlation (.78) between the dependent and independent variables. The adjusted R^2 value was .62, which means that 62% of data variability is explained by the three significant gaps of *Assurance, Responsiveness, and Tangibles*.

The correlations among mean quality gaps were high as shown in Table 13. However, in order to test for the existence of multicollinearity among independent variables, the Conditional Index (*CI*) was calculated and was found to be 12.105 representing a maximum value which is less than 30. So, there are no linear relationships among independent variables (Al-Omar, 2004). Furthermore, the Variance Inflation Factor (VIF) was calculated and all its values were found less than 10 (Field, 2005). Therefore, we can conclude that there is no multicollinearity within the independent variables.

Accordingly, the three variables (dimensions) emerging from the regression analysis as the main predictors of employees' quality perceptions are *Assurance, Responsiveness, and Tangibles*, with the

Table 8. The five statements with the highest perception scores

Statement No.	Statement	Mean Expectation Score	Dimension
P03	Their employees are well dressed and appear neat	3.709	Tangibles
P01	SHC have up-to-date equipment	3.402	Tangibles
P4	The appearance of the physical facilities of these clinics is in keeping with the type of services provided	3.392	Tangibles
P16	Employees of SHC are consistently courteous with patients	3.281	Assurance
P02	Their physical facilities are visually appealing	3.246	Tangibles

Table 9. The five statements with the lowest perception scores

Statement No,	Statement	Mean Expectation Score	Dimension
P11	Employees of SHC give prompt service to patients	2.819	Responsiveness
P22	SHC have operating hours convenient to all their patients	2.754	Empathy
P05	When SHC promise to do something by a certain time, they so do	2.704	Reliability
P06	When a customer has a problem, SHC show a sincere interest in solving it	2.648	Reliability
P08	SHC provide their service at the time they promise to do so	2.638	Reliability

Table 10. The five statements with the highest gap scores

Statement No.	Statement	Mean Gap Score	Dimension
08	SHC should provide their service at the time they promise to do so	-1.919	Reliability
06	When a customer has a problem, SHC will show a sincere interest in solving it	-1.814	Reliability
05	When SHC promise to do something by a certain time, they should do so	-1.809	Reliability
22	SHC should have operating hours convenient to all their patients	-1.769	Empathy
11	Employees of SHC should give prompt service to patients	-1.733	Responsiveness

Table 11. The five statements with the lowest gap scores

Statement No.	Statement	Mean Gap Score	Dimension
03	Their employees should be well dressed and appear neat	-0.680	Tangibles
01	SHC should have up-to-date equipment	-1.011	Tangibles
04	The appearance of the physical facilities of these clinics should be in keeping with the type of services provided	-1.031	Tangibles
02	Their physical facilities should be visually appealing	-1.112	Tangibles
19	Employee of SHC should be expected to give patients personal attention	-1.118	Empathy

11) fall within the *Responsiveness* and *Empathy* dimensions. It is worthy to note that these findings are consistent with the statistical results displayed in Table 5 (gaps between perceptions and expectations of the five dimensions of health care quality). So, these five statements appear to represent their corresponding dimensions. Table 11 shows that the top four statements of the lowest gaps between perceptions and expectations are within the *Tangibles* dimension (statements No. 3, 1, 4, and 2 respectively). This is, again, supported by the statistical results displayed in Table 5.

These findings, so far, strongly indicate a deficiency in the areas of *Reliability, Responsiveness, and Empathy*, which calls for taking the necessary steps to improve the performance of health care providers in these areas.

A t-test associated with Levene test for equality of

at the .01 level, followed closely by a significant negative gap in the area of *Responsiveness* (-1.59, t = 17.14, p < .01), and another significant negative gap in the area of *empathy* (-1.44, t = 17.56, p < .01). The smallest negative gap is in the *Tangibles* dimension (-0.90) but with a significant t-value of 13.15 (p < .01) too. Therefore, we can conclude that quality gaps do exist in all aspects of the SHC services.

Table 5. Gaps between perceptions and expectations of the five dimensions of Health Care Quality at SHCs

Dimension		P*	E*	G	t	p
Tangibles	Mean	3.45	4.34	-0.90	13.15	< 0.01
	S.D.	0.75	0.74			
Reliability	Mean	2.85	4.49	-1.64	19.18	< 0.01
	S.D.	1.03	0.72			
Responsiveness	Mean	2.89	4.48	-1.59	17.14	< 0.01
	S.D.	1.05	0.77			
Assurance	Mean	3.15	4.50	-1.34	14.55	< 0.01
	S.D.	1.04	0.77			
Empathy	Mean	2.97	4.41	-1.44	17.56	< 0.01
	S.D.	0.95	0.76			
Whole Scale	Mean	3.02	4.33	-1.31	14.07	< 0.01
	S.D.	1.05	0.90			

* P=Perceptions, E=Expectations, G=Gap

Table 6 displays the five statements with the highest expectation scores, while Table 7 exhibits the five statements with the lowest expectation scores. Table 8 displays the five statements with the highest perception scores, whereas Table 9 shows the five statements with the lowest perception scores.

The results in Table 6 indicate that respondents have the highest expectations in the areas of *Reliability, Responsiveness, and Assurance.*

The results of Table 7 show that the lowest expectations of respondents fall heavily into the *Tangibles* Area (even though they all score at 4+ out of 5).

According to Table 8, the *Tangibles* area accounts for the highest perceptions of respondents (even though they all did not reach the 4.0 score level). These results, combined with the results in Table 7 concerning the tangibles items yield the smallest overall negative gap appearing in Table 5 (-0.90). The SHCs appear to perform better in the area of tangibles than in other areas.

The Results in Table 9 indicate that the dimensions *Responsiveness, Empathy*, and especially *Reliability* account for the lowest perception scores.

The lowest and highest mean quality gap scores are displayed in Tables 10 and 11. The top three statements of the highest gap between perceptions and expectations are within the *Reliability* dimension (statements No. 8, 6, and 5 respectively) as displayed in Table 10. The two other statements (No. 22 and

Table 6. The five statements with the highest expectation scores

Statement No.	Statement	Mean Expectation Score	Dimension
E12	Employees of SHC should always be willing to help patients	4.617	Responsiveness
E16	Employees of SHC should be consistently courteous with patients	4.607	Assurance
E15	Patients of SHC should feel safe in their transactions with the SHC employees	4.592	Assurance
E09	SHC should keep their appointment and patient records accurately	4.582	Reliability
E10	Employees of SHC should tell their patients exactly when services will be performed	4.572	Responsiveness

Table 7. The five statements with the lowest expectation scores

Statement No.	Statement	Mean Expectation Score	Dimension
E04	The appearance of the physical facilities of these clinics should be in keeping with the type of services provided	4.423	Tangibles
E01	SHC should have up-to-date equipment	4.413	Tangibles
E03	Their employees should be well dressed and appear neat	4.388	Tangibles
E02	Their physical facilities should be visually appealing	4.358	Tangibles
E19	Employees of SHC should be expected to give patients personal attention	4.294	Empathy

Table 3. Reliability coefficients

Scale Items	Cronbach's Alpha	No. of Items
Perception Items	0.974	23
Expectation Items	0.975	23
All Items	0.955	46

Results of the Statistical Analysis

Perceptions, expectation and gaps

The perception, expectation, and gap scores for each statement were computed; they are displayed in Table 4. As the table shows, expectation means for all statements are higher than perception means, and all 22 gaps are negative. Table 5 exhibits the means and standard deviations of the SERVQUAL's five dimensions. The expectation scores are very high for all five dimensions, ranging from 4.617 for statement no. E12 (Employees of SHCs should always be willing to help patients) to the lowest of 4.294 for the statement no. E19 (Employees of SHCs should be expected to give patients personal attention) with an overall mean of 4.33. The high means of expectations were anticipated and are in-line with previous studies in the field (e.g., Karassavidou, Glaveliand, and Papadopoulos, 2009; Lin *et al.*, 2009; Soliman, 1992).

The overall gap between expectations and perceptions was -1.31. As shown in Table 5, the t-tests yielded t values that are statistically significant for each dimension as well as for the whole scale. The largest negative gap exists in the area of *Reliability* (-1.64) with a significant t-value of 19.18

Table 4. Expectations, perceptions, and quality Gap Mean Scores

Dimension	Statement No.	Statements	Mean Perception Score (P)	Mean Expectation Score (E)	Mean Quality Gap Scores (P-E)
Tangibles	1	SHCs should have up-to-date equipment	3.402	4.413	-1.011
	2	Their physical facilities should be visually appealing	3.246	4.358	-1.112
	3	Their employees should be well dressed and appear neat	3.709	4.388	-0.68
	4	The appearance of the physical facilities of these clinics should be in keeping with the type of services provided	3.392	4.423	-1.031
Reliability	5	When SHCs promise to do something by a certain time, they should do so	2.704	4.512	-1.809
	6	When a customer has a problem, SHC will show a sincere interest in solving it	2.648	4.463	-1.814
	7	SHCs should be dependable	2.970	4.443	-1.473
	8	SHCs should provide their service at the time they promise to do so	2.638	4.557	-1.919
	9	SHC should keep their appointment and patient records accurately	3.095	4.582	-1.487
Responsiveness	10	Employees of SHC should tell their patients exactly when services will be performed	2.894	4.572	-1.678
	11	Employees of SHC should give prompt service to patients	2.819	4.552	-1.733
	12	Employees of SHC should always be willing to help patients	3.050	4.617	-1.567
	13	Employees of SHC should never be too busy to respond to patients' requests	2.849	4.478	-1.628
Assurance	14	Patients should be able to trust employees in SHC	3.121	4.562	-1.442
	15	Patients of SHC should feel safe in their transactions with the SHC employees	3.131	4.592	-1.461
	16	Employees of SHC should be consistently courteous with patients	3.281	4.607	-1.326
	17	Employees should get adequate support from SHC to their job well	3.000	4.542	-1.542
Empathy	18	SHC should give patients individual attention	3.015	4.453	-1.438
	19	Employees of SHC should be expected to give patients personal attention	3.176	4.294	-1.118
	20	SHC should have employees who know what the needs of their patients are	2.910	4.512	-1.603
	21	SHC should have their patients' best interest at heart	2.960	4.502	-1.543
	22	SHC should have operating hours convenient to all their patients	2.754	4.522	-1.769
		Overall Mean	**3.020**	**4.330**	**-1.310**

(Parasuraman, Zeithaml, and Berry, 1988).

On the other hand, Shahin (2006) states that although SERVQUAL could close one of the important service quality gaps associated with external customer services, it could be extended to close other major gaps and therefore, it could be developed in order to be applied for internal customers, i.e. employees and service providers. The harmony in research results among various studies provides evidence of the appropriateness of using SERVQUAL in the studies of health care quality.

Notably, obtaining negative results from SERVQUAL data analysis may signal the existence of a deeper underlying problem in the health care organization. Babakus and Mangold (1992) assume that SERVQUAL's negative results indicate that patients do not perceive hospital employees as being willing to help by lowering the rating score of this aspect of quality. However, these negative results may be considered as symptomatic of deeper problems that center on the organization's ability to hire and retain high-quality employees, to evaluate and reward superior performance, or to provide adequate training. This is upheld by Parasuraman (1987) who states that consistent and sincere recognition of such performance, through the appropriate awards and rituals for a given firm, can greatly nurture a customer-oriented culture.

Service quality has been approached as a multidimensional construct as it is clearly explored in the literature. In addition, the SERVQUAL scale has been the most implemented service quality measurement tool in the literature, and has also been implemented in almost every conceivable service context (Green, 2008). The five dimensions of the SERVQUAL scale are:

1. *Tangibles:* the appearance of physical facilities, equipment, personnel and communications material;
2. *Reliability:* the ability to perform the promised service accurately and dependably;
3. *Responsiveness:* willingness to help customers and to provide prompt service;
4. *Assurance:* knowledge, courtesy, and ability to convey trust and confidence; and,
5. *Empathy:* caring and individualized attention provided to customers.

Since the SERVQUAL instrument is a valid and reliable measurement tool and enable organizations to assess and monitor service quality, areas of health care improvements - from the patients' perspectives - can be identified through this instrument and fixed.

Furthermore, a longitudinal measurement of health care quality can be implemented over a number of years using the same scale each year. This will allow the KFMC's administration to judge the developments of patients' perceptions of the quality of health services over time and take the appropriate actions.

Study authors used the SERVQUAL instrument with a minor adaptation in order to measure employees' experiences regarding service quality and to gain deeper understanding of patients' needs since the study patients are employees and health care providers in the same health institution. Soliman (1992) notably concludes that health care practitioners should consider their clients as 'consumers' of health care services rather than 'constrained' or 'caught-in' patients. Following this advice will definitely improve patients' perceptions and increase their satisfaction.

The study used a 5-point Likert scale as it is considered to be the most convenient scale in the majority of studies conducted in Saudi Arabia. The questionnaire consists of 22 statements, each of which measure patient perception, and another 22 matching statements which measure patient expectations. The five main dimensions of both perceptions and expectations are as follows:

- The *Tangibles* dimension consists of statements 1-4.
- The *Reliability* dimension consists of statements 5-9.
- The *Responsiveness* dimension consists of statements 10-13.
- The *Assurance* dimension consists of statements 14-17.
- The *Empathy* dimension consists of statements 18-22.

Besides, the researchers added a statement at the end of the expectations and perceptions lists (no. P23 and E23) in order to measure the overall perception and expectation of employees. This situation necessitated the re-calculation of the reliability coefficient, Cronbach's Alpha, to ensure the scale's reliability after adding the 23rd item to the scale. The analysis results indicated high reliability of the revised scale as shown in Table 3. The overall internal reliability measured by Cronbach's alpha was 0.955 whereas the scores were higher both in perceptions and in expectations statements (0.974 and 0.975 respectively).

The respondents' demographic profile in Table 2 shows that the age of the majority of employees falls in the 25-50 years bracket, which represents 86% of respondents. In addition, about 87% of them have more than one year work experience at KFMC. Therefore, these results indicate the stability of manpower in this new institution. This is further supported by the fact that 95.8% of employment contracts are permanent for both single and married staff, while 4.2% of the contracts are temporary. As to gender, female respondents represent 61% of the survey sample and males 39%.

Table 2. Respondents' demographic profile

Measure	Items	Frequency	%
Gender	Male	83	38.8%
	Female	131	61.2%
Age	Less than 25	6	2.8%
	25-50	185	86.0%
	More than 50	24	11.2%
Nationality	Saudi	67	31.2%
	Non-Saudi	148	68.8%
Type of contract	Permanent single Contract	149	69.6%
	Locum single contract	6	2.8%
	Permanent Married Contract	56	26.2%
	Locum married contract	3	1.4%
Housing	On campus	87	40.5%
	Off campus	128	59.5%
Profession	Medical	47	21.9%
	Nursing	74	34.4%
	Administration	41	19.1%
	Allied and technicians	53	24.7%
Work experience in KFMC	Less than 1 year	29	13.4%
	1 to 5 Years	115	53.0%
	More than 5 years	73	33.6%

Data collection instrument

The data collection instrument of the study is the well-known SERVQUAL scale. SERVQUAL is a scale that measures service quality through a comparison of customers' expectations with their perceptions. This is a user-based tool implying that customers have some expectations with respect to service performance prior to the delivery of service. These expectations are compared to their perceptions of the service delivered during the service encounter; i.e., during patients' interactions with doctors, nurses, support staff, physical facilities and other elements during their visit to the health care center (Tam, 2007).

This scale is the most popular and heavily used in measuring service quality, and its validity and reliability have already been established. The selection of SERVQUAL for use in this study is furthered by the fact that previous research on health care emphasizes that SERVQUAL provides hospital administrators with a tool for the measurement of functional quality in their own organizations (Babakus and Mangold, 1992). On the other hand, in their study in Greece, Karassavidou, Glaveliand, and Papadopoulos (2009) concluded that applying SERVQUAL provides a conceptual and operational framework which adopts patients' orientations since it integrates their expectations and perceptions concerning the services provided. Moreover, they found that their results clearly established the areas where quality improvements were more demanding. Accordingly, they gave direction towards the development of strategies, which would meet patients' expectations of service quality, would improve patients' trust in public hospitals, and would eventually increase their competitiveness.

A good reason for using SERVQUAL in this study is the fact that numerous studies in the field of health care demonstrate the suitability of using SERVQUAL in measuring health care quality. For example, in addition to the studies mentioned above and following the Parasuraman gap model, Quader (2009) used SERVQUAL to measure the expectations of patients and managers in outpatient clinics in Benenden Hospital, United Kingdom. Quader (2009: 115) justifies the selection of this instrument by stating that "it is the most widely discussed in the academic literature and it provides a simple structure and offers flexibility."

On the other hand, Soliman (1990, 1992) used the SERVQUAL instrument in measuring the gap between patients' perceptions and expectations of the quality of health services in 34 cities and townships in Western North Carolina, USA. Soliman's research findings support the findings of previous research in that patients give much consideration to the interpersonal skills of health care providers and that they have negative judgement on most health care service quality dimensions.

In the Karassavidou, Glaveliand, and Papadopoulos (2009) study, the researchers reviewed the literature of the SERVQUAL instrument and concluded that despite the criticism of the instrument, it proved to be a flexible, reliable, and valid tool for measuring quality in Greek hospitals. Moreover, these researchers state that the SERVQUAL scale, which was first developed by Parasuraman, Zeithaml, and Berry (1985), has been extensively accepted and utilized as a generic instrument that successfully captures the multidimensionality of service quality. Originally, Parasuraman and his colleagues identified ten dimensions of service quality which were reduced later to five dimensions encompassing 22 items after extensive explorative research and empirical testing

which, in turn, makes them differ in what they seek from a health care provider and how they perceive the quality of service performance. Some patients may demand more information and a higher level of personal care; others may simply put their health in the hands of the provider and hope that the service will be provided in their best interests (Tam, 2007).

While quality researchers do not agree on one definition of quality or how to measure it, Donabedian (2003) maintains that the concept of quality can be rather precisely defined, and that it is amenable to a measurement that is accurate enough to be used as a basis for the effort to monitor and to 'assure' quality. In line with this approach, many researchers (e.g., Babakus and Mangold, 1992) maintain that the quality of health care is composed of two components: technical quality (technical accuracy of the diagnoses and procedures) and functional quality (the manner in which the health care service is delivered to the patient). Because information about various techniques for measuring technical quality is not generally available to the public, knowledge of the technical quality of health care services is limited to health care professionals and administrators. On the other hand, functional quality is usually the main determinant of patients' quality perceptions which, in turn, affect patients' intentions to purchase health services.

One of the salient attributes of health care is that it requires high patient involvement in the service process. Gill and White (2009) argue that traditional health sector's views of technical quality and patient satisfaction are inadequate when striving to manage the complex relationships between the health care provider and the patient. Moreover, they indicate that the effective health care sector importantly and significantly relies on the co-contribution of the patient to the service delivery process. This will not be accomplished successfully unless the patient is satisfied with the service and mutual trust exists between him/her and the health care provider. There is ample evidence from the service and health care literatures that perceived service quality leads to increased customer satisfaction and intention to revisit the health facility (e.g., Badri, Attia, and Ustadi, 2009; Lin *et al.*, 2009; Qin, 2009; Tam, 2007).

Accordingly, both health care administrators and researchers are giving more attention to the issue of health care quality and its measurement. This is evidenced by the large number of studies focusing on this issue.

Study questions

The study seeks to answer the following research questions:

1. What are the perceptions and expectations of health care quality of patients at KFMC-SHCs?
2. Are there any gaps between the perceptions and expectations of health care quality of patients at KFMC-SHCs, and what are these gaps, if any?
3. What are the quality dimensions that are most associated with overall quality perceptions?
4. What respondents' demographics are associated with their expectations?
5. What are the major factors leading to service quality according to the patients' perceptions and expectations in SHCs?

Methodology

Sampling procedure

The population of the study is all KFMC employees who are eligible to receive health care services at Staff Health Clinics. The KFMC employee population is about 4,900 staff members -excluding their dependents- who are living inside and outside KFMC premises. Every staff member has an e-mail account that was utilized as the communication tool for answering the questionnaire. The large diversity and big differences in staff socio-demographics in terms of nationality, age, gender, professional level, and experience are expected to result in major differences in both their perceptions and expectations of staff health clinics' services.

An email message was sent to all KFMC employees asking them to complete the questionnaire by accessing an e-link via their email. The total number of valid responses was 264, which represented a response rate of approximately 5.4% of the population, and the sample distribution was highly correlated with that of the population ($r = 0.973$, $p<.05$, see Table 1).

Table 1. Sample distribution according to type of profession compared to the population

Professional categories	Distribution in the population %	Distribution in the sample %
Medical	15.3%	18.2%
Nursing	51.0%	46.3%
Administration	14.3%	15.7%
Allied and Technicians	19.4%	19.8%
Missing values	-	-
Total	100%	100%

Respondents to Population Distribution: $r = .973$, $p<.05$

nursing professionals, technicians, office managers, clerical staff, etc.) at other clinics in the same hospital or even care providers in the same clinic! So, how does this type of patients judge the service quality of health care they receive from their colleagues and workmates? And how do care providers deal with them?

Accordingly, the objectives of this study are to:

1. measure the perceptions and expectations of health service quality, and the gaps between them, if any, from the viewpoint of KFMC-SHCs' patients;
2. identify the quality dimensions associated with overall quality perceptions;
3. find out which respondents' demographics are associated with their expectations;
4. detect the dimension gaps that can predict the overall quality perceptions of respondents; and
5. determine the major factors leading to service quality according to patients' perceptions and expectations at SHC.

Study significance

This study helps achieve the following purposes:

- Obtaining a realistic picture of the health care quality perceptions and expectations of patients of the staff health clinics that can guide service improvement at SHCs of King Fahd Medical City (KFMC);
- Understanding patients' needs in order to increase their satisfaction since improving the quality of health services is expected to result in increased patient satisfaction. As the patients in this case are KFMC employees, their satisfaction with health services is expected to influence their job satisfaction positively.
- Establishing a starting point for a long-term evaluation of the performance of SHCs, which will help in future longitudinal comparisons and improvements.

The study was conducted at King Fahad Medical City (KFMC), one of the major tertiary healthcare facilities in Riyadh, Saudi Arabia. A competitive advantage of this facility is providing health care services to its employees in a separate set of "Staff Health Clinics." These clinics are operated by family practice physicians and their assistants, and are supported by all other ancillary services including nursing and patient affairs.

Study limitations

This study has two limitations. First, health care quality has two major components: technical quality and non-technical quality. Previous research has indicated that patients tend to judge the quality of health care based on *both* components; technical quality (the technical proficiency of providers) *and* non-technical quality (the providers' interpersonal skills) (Soliman, 1992). In general, the technical quality is always difficult to be assessed by patients due to the technical nature of services as well as the increased knowledge gap between the health care providers and their patients. Only similar professionals and peers can evaluate such technical quality. Because the respondents of this study are health care employees, they may have some technical knowledge -more or less- which would affect the opinions they expressed in the study. So, the findings of this study cannot be generalized to regular patients.

On the other hand, this study is conducted in one hospital (KFMC) and in one city (Riyadh). Therefore, the findings can only be generalized to KFMC and – to a limited extent- similar health care institutions with SHCs but cannot be generalized to all hospitals in Riyadh or in the Kingdom.

Literature Review

Service characteristics

Unlike goods, services possess a number of unique characteristics, which pose a challenge to their providers vis-à-vis service recipients. Services are intangible, perishable, and often require the involvement of service recipients in the production process. In addition, many services are produced and consumed simultaneously, which necessitates customer's presence and interaction with the service provider. Moreover, service quality tends to be variable over time especially when the service depends on employees' performance; this situation leads to providing services at different levels of quality (Kotler and Keller, 2009).

Health care service characteristics and quality

In the case of health care services in particular, all of the above characteristics apply. Besides, a desirable outcome might not be realized immediately, but can occur over a period of time, requiring patient compliance with medical treatment and advice (Scott and Smith, 1994). Additionally, health care services possess "credence attributes," i. e., characteristics that customers may find difficult to evaluate after receiving the service because they lack the knowledge and skills necessary to make the appropriate judgment, and are obliged to trust the providers (Zeithaml, 1981). On the other hand, patients differ in terms of their background, experience, and sickness,

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Assessing Service Quality of Staff Health Clinics: The Case of King Fahad Medical City in Riyadh

Ahmed A. Soliman* and Jumah F. AlAnazi**
**Professor of Marketing,*
College of Business Administration, King Saud University, Riyadh
***Ph.D Candidate in Health Administration,*
College of Business Administration, King Saud University,
Riyadh, Saudi Arabia

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Abstract. Like other major hospital clinical departments, staff health clinics (SHCs) of health care institutions in the Kingdom of Saudi Arabia are realizing the significance of customer-centered philosophy and are turning to quality management. The objectives of this study are to (1) identify respondents' perceptions, expectations, and service gaps of health care quality at King Fahad Medical City's (KFMC's) SHCs, (2) identify the quality dimensions that are most associated with overall quality perceptions, (3) find out which patients' demographics are associated with their expectations, and (4) identify the dimension gaps that can predict overall quality perceptions of respondents. The SERVQUAL scale was used to collect data from a stratified random sample representing all major medical professions at KFMC via their email addresses. The findings revealed negative gaps in all aspects of health care services. Discussion and recommendations are provided to improve the health services there.

I. Introduction

Health care institutions in Saudi Arabia constitute a major service sector that provides a wide range of services to their patients. These institutions are under increasing pressure to demonstrate that their services are customer-focused. As internal customers, the employees of these institutions are privileged to access health care services without difficulty when they become sick. Some hospitals consider their staff as regular patients whereby the latter seek the required medical service like other patients, whereas other hospitals establish special 'staff health clinics' (SHCs) for their employees. With this in mind, it is therefore essential that the perceptions and expectations of employees—as main users of these services—are appropriately measured and that any gaps in service quality, from their perspective, are identified and rectified. This information will certainly help hospital administrators identify service quality gaps, select the best ways of closing them, and prioritize remedial actions.

It has been said that quality starts at customers' requirements and ends at customers' perceptions. Nevertheless, measuring the quality of a service can be a difficult exercise. Unlike products with explicitly-known specifications such as length, depth, width, weight, color, design, etc., a service can have numerous intangible and qualitative characteristics. In addition, customer expectations with regard to the service play an important role in shaping customers' judgement of the service, which can vary considerably based on a range of factors such as customers' prior experience, personal needs, and what other people may have told them, among other factors.

The main question this study seeks to answer is: "Is there a gap between the perceptions and expectations of health care recipients in regard to service quality at the staff health clinics of King Fahd Medical City?" If the answer is yes, then, "What aspects of the service do suffer from this gap? And what variables are associated with their perceptions and expectations of health care quality?" Finally, "Can we use these variables in predicting customers' perceptions?"

A unique aspect of this study is that health care recipients (i.e., employee patients) are themselves health care providers (medical, pharmaceutical, and